UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,621	06/25/2003	Shigeto Hiraga	500.42888X00	2511

				EXAMINER
24956	7590	03/08/2006		HICKS, MICHAEL J

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ART UNIT	PAPER NUMBER
2165	

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/602,621	HIRAGA ET AL.
	Examiner	Art Unit
	Michael J. Hicks	2165

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>23 December 2005</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-11</u> is/are pending in the application.

    4a) Of the above claim(s) <s>3 and 7</s> is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1,2,4-6 and 8-11</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>25 June 2003</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All b) ☐ Some * c) ☐ None of:

      1. ☒ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-2, 4-6, and 8-11 are Pending.

Claims 3 and 7 are Canceled.

2.   Examiner would like to note that although Applicants remarks indicate that Claim

6 of the instant application was amended, the amended claims submitted on 12/23/2005

show Claim 6 appearing as originally written and indicated as such.

Examiners Response to Applicants Remarks

Remarks on Drawings and Specification

3.   The amended drawings and specification have been reviewed and are found to

be in compliance; therefore all objections to the drawing and specification are

withdrawn.

Remarks on Rejections Under U.S.C. 112

4.   Claims 2, 4, 6, and 7 were indicated as rejected under 35 U.S.C. 112.

As per Claim 2, the amendments made to Claim 2 overcome the rejection under

35 U.S.C. 112 and the rejection is withdrawn.

As per Claims 4, the amendments made to Claim 1 are such that Claim 1 now indicates a sufficient antecedent basis for the language of Claim 4 and the rejection of Claim 4 under 35 U.S.C. 112 is therefore withdrawn.

As per Claim 6, no amendment was made to Claim 6 and the amendments made to Claim 1, from which Claim 6 depends, do not give sufficient antecedent basis for the language of Claim 6 as indicated in the previous action, therefore the rejection of Claim 6 under 35 U.S.C. 112 will be maintained.

Claim 7 was canceled, therefore overcoming the rejection of Claim 7 under 35 U.S.C. 112.

Remarks on Rejections Under U.S.C. 102 and 103

5.   Claims 1-4 and 6-11 were indicated as rejected under 35 U.S.C. 102.

After further consideration of the prior art as well as Applicants amended claims Examiner agrees with the deficiencies of Glover noted in the Applicants remarks. As such, Examiner withdraws the previous rejections made under U.S.C. 102 and 103 and introduces new rejections based on new art, which are detailed below. Examiner believes these rejections to overcome the deficiencies found in Glover.

Claim Rejections - 35 USC § 112

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

Claim 2 recites the limitation "the row insertion holding history column" in lines 4-

5 of the amended Claim 2. There is insufficient antecedent basis for this limitation in the

claim.

Claim 6 recites the limitation "said database to be unloaded" in line 2. There is

insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public
> use or on sale in this country, more than one year prior to the date of application for patent in the United
> States.

8.   Claims 1-2, 4, 6, and 8-11 rejected under 35 U.S.C. 102(b) as being anticipated

by Hilchenbach ("Observations on the Real-World Implementation of Role-Based Access Control". In

20th National Information Systems Security Conference, October 1997).

As per Claims 1, 8, and 9, Hilchenbach discloses a database management

method comprising the steps of: entering a database definition request including

identification information for specifying a database and access attribute information of

said database (i.e. *"A group is a named collection of users. It can hold a set of privileges to resources...The ALL-group in RACF contains privileges for all users...SAM-roles are designed to solve this problem. SAM-roles can hold privileges and attributes..."* The preceding text excerpt clearly indicates that groups and roles define the access attribute information for users of a database. Any request for access of any kind may be interpreted as a database definition request in that it must first be determined whether the user requesting the access has the privilege (e.g. the appropriate access attributes) to perform the access in the defined database. Note that an ALL-group exists which makes this true for all users.) (Page 3, Paragraph 3; Page 4, Paragraph 2; Page 5, Paragraph 5); **if said database access attribute information is an insert-only attribute, authorizing data insertion and access to data in said database** (i.e. *"A group is a named collection of users. It can hold a set of privileges to resources...The ALL-group in RACF contains privileges for all users...In the banking example, all users had an attribute 'probation period'. Tellers in their probation period were allowed to read, but not to update some datasets."* The preceding text excerpt clearly indicates that if the privileges defined by the users role (e.g. which in the case of the ALL-Group encompasses the privileges of all users) specify an insert-only attribute (e.g. a privilege which allows insertion to the database) then insertion and access to the database will be allowed. The fact that a 'probation period' exists for all users indicates that an attribute which is used for allowing and disallowing insert privileges exists. Note that the authorization of data insertion and access will be granted on the first specification of such an attribute as well as upon any subsequent specification of that attribute.) (Page 3, Paragraph 3; Page 4, Paragraph 2; Page 5, Paragraph 1); **specifying at least an attribute of a data deletion prohibition period to said database** (i.e. *"In the banking example, all users had an attribute 'probation period'. Tellers in their probation period were allowed to read, but not to update some datasets."* The preceding text excerpt clearly indicates that a data update probation/prohibition period exists. During this period data updates (e.g. deletions) are prohibited. Note that because this attribute exists for all users, it could be set up using an attribute of the ALL-group noted above.) (Page 5, Paragraph 1); **and disabling change of said**

attribute after said attribute is specified, wherein said attribute cannot be changed other

than by a manager of an upper database level (i.e. *"Many companies handle it by giving security*

administrators ownership of all data...a SAM administrator may add additional privileges to the individual

users which are connected to the role." The preceding text excerpt clearly indicates that database

privileges, including the probation/prohibition period are managed by database administrators/managers,

and cannot be changed by others.) (Page 2, Paragraph 1; Page 7, Paragraph 4).

As per Claim 4, Hilchenbach discloses any one of change of a database name,

release of said insert-only attribute, and change of said deletion prohibition period is

prohibited in said database (i.e. *"Many companies handle it by giving security administrators*

ownership of all data...In the banking example, all users had an attribute 'probation period'. Tellers in

their probation period were allowed to read, but not to update some datasets...a SAM administrator may

add additional privileges to the individual users which are connected to the role." The preceding text

excerpt clearly indicates that only the security/database administrator/manager is capable of changing the

insert-only attribute and assigning the deletion/update probation/prohibition periods, therefor making the

change of these attributes prohibited in the database, and only available to an upper-level

administrator/manager.) (Page 2, Paragraph 1; Page 5, Paragraph 1; Page 7, Paragraph 4).

As per Claim 6, Hilchenbach discloses if no insert-only attribute is specified to

said database to be unloaded, the reload of said database to be unloaded, the reload of

said database with said insert-only attribute specified thereto is prohibited (i.e. *"A group is*

a named collection of users. It can hold a set of privileges to resources...In the banking example, all

users had an attribute 'probation period'. Tellers in their probation period were allowed to read, but not to

update some datasets." The preceding text excerpt clearly indicates that a data update

probation/prohibition period exists. During this period data updates (e.g. deletions) are prohibited. Also, attributes may be specified to grant or deny access to other functions pertaining to datasets (such as a set consisting of all data), such as updating and writing data to the database. If such an insert only attribute were set (e.g. indicating that data insertion were not permitted) while a database reload (e.g. the loading of a backup image onto the database) was initiated, the reload of the database would be denied due to the fact that write access was not available at the time. If write access were specified to be allowed, the reload would be permitted.) (Page 3, Paragraph 3; Page 5, Paragraph 1).

As per Claim 10, Hilchenbach discloses said access attribute information includes a data update postponement period, if said data update postponement period has not passed since the time when said data with said postponement period specified thereto was inserted, the update of said data is authorized, and if said postponement period has passed, said data update is prohibited (i.e. *"In the banking example, all users had an attribute 'probation period'. Tellers in their probation period were allowed to read, but not to update some datasets...For example, privileges in a lot of security systems allow to specify START-TIME and END-TIME. The privileges is valid only if used within the time range as specified by these values..."* The preceding text excerpt clearly indicates that the update probation/prohibition can be combined with START-TIME and END-TIME attributes which would allow access to data only within the times between the START-TIME and END-TIME. Because access attributes can be applied to different data sets data may e contained in more than one data-set, these START-TIME and END-TIME attributes may be set on each piece of data as it is entered into the database, and allow the privilege for users to update the information while this postponement period (e.g. the time between the START-TIME and the END-TIME) is valid. After the END-TIME passes, the users can then be assigned an update prohibition/probation period for that data set which would disallow/prohibit updates to the information after the postponement period has passed.) (Page 5, Paragraph 1; Page 6, Paragraph 3).

As per Claim 11, Hilchenbach discloses said insert only attribute is specified to a

column of said database (i.e. *"In the banking example, all users had an attribute 'probation period'.*

Tellers in their probation period were allowed to read, but not to update some datasets..." The preceding

text excerpt clearly indicates that because the attribute is held within the database, it is either specified

either in a table in the database file, or in a table in the database directory/dictionary. Both of these would

involve storing the attribute in a column of the respective table.) (Page 5, Paragraph 1).

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

10.   Claim 2 rejected under 35 U.S.C. 103(a) as being unpatentable over Hilchenbach

in view of Jensen et al. ("Transaction Timestamping in (Temporal) Databases", Proceedings of the 27th

VLDB Conference, Rome, Italy, pp. 441-450, September 11-14, 2001. and referred to hereinafter as Jensen).

As per Claim 2, Hilchenbach fails to discloses executing data insertion

processing after time stamp data to be saved in the row insertion history holding column

is created.

Jensen discloses executing data insertion processing after time stamp data to be

saved in the row insertion history holding column is created (i.e. *"Previous solutions have*

chosen timestamps at commit time, selecting a time that agrees with commit order. However, SQL standard databases can require an earlier choice because a statement within a transaction may request 'current time.' Managing timestamps chosen before a serialization order is established is the challenging problem we solve here." The preceding text excerpt clearly indicates that timestamps for data writes are stored before the data writes are committed. Also note that because the timestamps are stored in the database, a row insertion holding column (e.g. a column of the table which stores database write timestamp information) must exist.) (Page 441, Abstract).

It would have been obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Hilchenbach with the teachings of Jensen to include executing data insertion processing after time stamp data to be saved in the row insertion history holding column is created with the motivation to provide database applications (e.g. such as deletion prohibition and database unloading and reloading) with accountability and trace-ability that necessitate retaining previous database states (Jensen, Page 441, Abstract).

11.   Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Hilchenbach in view of Prakash (U.S. Pre Grant Publication Number 2005/0165868).

As per Claim 5, Hilchenbach discloses said database with said insert-only attribute holds an unload date and time in said database (i.e. *"A group is a named collection of users. It can hold a set of privileges to resources...For example, privileges in a lot of security systems allow to specify START-TIME and END-TIME. The privileges is valid only if used within the time range as specified by these values..."* The preceding text excerpt clearly indicates that privileges to resources may

be defined (e.g. such as a ability to unload or reload a data set, which may consist of the entire database) and that a START-TIME and END-TIME may also be specified for these privileges, meaning a scheduled time (e.g. unload date/time) for the unload may also exist.) (Page 3, Paragraph 3; Page 6, Paragraph 3); in the case of reloading said database, the capability to determine if said unload date and time is matched to that stored in an external storage medium and if matched, the process of reloading said database is executed (i.e. *"A group is a named collection of users. It can hold a set of privileges to resources...In the banking example, all users had an attribute 'probation period'. Tellers in their probation period were allowed to read, but not to update some datasets."* The preceding text excerpt clearly indicates that a data update probation/prohibition period exists. During this period data updates (e.g. inserting data via a database reload) are prohibited. Also, attributes may be specified to grant or deny access to other functions pertaining to datasets (such as a set consisting of all data), such as updating and writing data to the database (e.g. in this case writing to the database from an external storage medium). If such an insert only attribute were set (e.g. indicating that data insertion were not permitted) while at a time when the database reload (e.g. the loading of a backup image onto the database) was scheduled, the times of the scheduling of the external storage medium and the database would be determined not to be matched and the reload of the database would be denied due to the fact that write access was not available at the time. If write access were specified to be allowed, as per the scheduled unload date and time, the reload would be permitted.) (Page 3, Paragraph 3; Page 5, Paragraph 1).

Hilchenbach fails to disclose an external storage medium which has an unload date and time to be matched with the unload date and time of the database.

Prakash discloses an external storage medium which has an unload date and time to be matched with the unload date and time of the database (i.e. *"A user can set policies to schedule and manage the restore operations...A Recover Database Utility lets a user restore information from a database backup to the database...including an option to specify a date to restore the*

database." The preceding text excerpt clearly indicates that a date/scheduled time/unload date and time is stored along with database data in a database backup/external storage medium.) (Page 6, Paragraphs 64, 72).

It would be obvious to one skilled in the art at the time of Applicants invention to modify the teachings of Hilchenbach with the teachings of Prakash to include an external storage medium which has an unload date and time to be matched with the unload date and time of the database with the motivation to specify a date to restore the database (Prakash, Page 6, Paragraph 72).

- *Arguments are moot in view of the new grounds of rejection*

12.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.
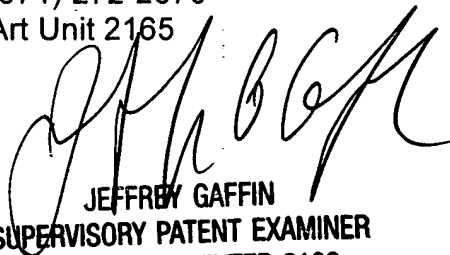
Points of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Hicks whose telephone number is (571) 272-2670. The examiner can normally be reached on Monday - Friday 8:30a - 5:00p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on (571) 272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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